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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,851	07/30/2003	Tae-eun Kwon	1293.1901	6163
21171	7590	08/09/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LEE, GUIYOUNG	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H/A

**Office Action Summary**

Application No.

10/629,851

Applicant(s)

KWON, TAE-EUN

Examiner

Guiyoung Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 and 28-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 28-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0305</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Prelim./Amdt.*

1. Receipt is acknowledged of the Amendment filed 04 May 2005.

### *Response to Arguments*

2. Applicant's arguments with respect to claims 1-26 and 28-39 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-26 and 28-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claims 1, 7, 12, 18, 23, 34, and 37: the claimed limitation “ a plurality of reflective slopes to reflect and make uniform the incident light, each of the reflective slopes having a stripe shape and forming a varying angle with respect to the lengthwise direction” is indefinite. First the language is confusing and should be modified to “ a plurality of grooves having reflective slopes to reflect and make uniform the incident light” or a similar appropriate phrase. Second, it is unclear whether the “a varying angle” indicates the angle between two reflective slopes (this is the meaning as interpreted by the examiner). If the claimed angle is “ $\theta$ ” in Fig. 8, then the claimed limitation should be modified to “the stripes of the grooves is forming a varying (or

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predetermined) angle with respect to the lengthwise direction of the optical guide” or a similar appropriate phrase.

Claims 2-6, 8-11, 13-17, 19-22, 24-26, 28-33 and 35-36, and 38-39 are necessarily rejected because of their dependency.

*Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 6-9, 11-14, 17-20, 22-26, 28, 32 and 34-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsutsumi et al. (US 5,850,585).

Re claim 1, 7, 12, 18, 23-24, 34 and 37: Tsutsumi discloses the claimed image forming apparatus (Fig. 1) comprising an eraser (8) which initializes a surface potential of a photoreceptor medium, and an auxiliary transfer device (5 and 6), which facilitates transfer of a toner image by radiating light on a surface of the photoreceptor medium, wherein the eraser (8) and the auxiliary transfer device comprise: a light source (24 and 25 in Fig. 2) to emit light; and an optical guide (27) on a side of the apparatus having the light source, which guides the light emitted from the light source (24 and 25) and incident therethrough in a lengthwise direction, makes uniform the light in an effective width range of the lengthwise direction and outputs the uniform light, wherein the optical guide (27) comprises: a first surface (the bottom surface of the light guide 27) to receive the incident light, comprising a plurality of reflective slopes (28) to reflect and make uniform the

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incident light, each having a stripe shape and forming a varying angle with respect to the lengthwise direction, and a second surface (the top surface of the light guide 27) which is opposite to the first surface and is an output surface from which the light reflected from the reflective slopes is output.

Re claims 2-3, 13-14: Tsutsumi discloses that the interval between the reflective slopes gradually become smaller when moving further from a side of the guide onto which the light is incident (See the interval between the slopes 28 in Fig.2).

Re claims 6, 8-9, 11, 17, 19-20, 22, 28 and 32: Tsutsumi discloses that the groove has a triangular structure and a stripe shape, and the plurality of slopes is parallel to one another and have a uniform width.

Re claims 25-26, 35-36 and 38-39: Tsutsumi discloses a LED as a light source disposed between the first and second surfaces (See 25 in Fig. 2). Tsutsumi, further, discloses a cover to cover the light source (21 in Fig. 2).

### *Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-5, 10, 15-16, 21 and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsumi as applied to claims 1, 7, 12, 18, 23, 34 and 37 above, and further in view of Suzuki (US 6,088,074).

Re claims 4 and 15: Tsutsumi does not disclose various angles formed by the reflective slopes with respect to the lengthwise direction. However, Suzuki teaches that the angle formed by the reflective slopes with respect to the lengthwise direction gradually becomes larger when moving further from a side of the guide onto which the light is incident (col. 6, line 26-32 and 12 in Fig. 6). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Tsutsumi's optical guide having various angle to increase when moving further from a side of the guide onto which the light is incident, as taught by Suzuki, in order to provide uniform distribution of illumination.

Re claims 5, 10, 16, 21 and 29-33: Suzuki teaches that a slope which connects the reflective slopes to a portion of the first surface along the lengthwise direction and having a width greater than a width of the reflective slopes, which forms an incline with respect to the lengthwise direction (See 5 in fig. 6), and a reflectivity of the optical guide decrease with decreasing distance from a source of the incident light.

*Allowable Subject Matter*

9. Claims 12-17, 18-22, and 34-39 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

10. The following is a statement of reasons for the indication of allowable subject matter:

Although Tsutsumi and Suzuki discloses an optical guide having a plurality of grooves, the

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stripes of the plurality of grooves of Tsusumi and Suzuki are not forming varying or predetermined angles with respect to the lengthwise direction of the optical guide. Further, Tsusumi and Suzuki fails to disclose motivation to combine the optical guide with an image forming apparatus comprising an eraser and an auxiliary transfer device.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Goto (US 6,341,872 B1) discloses an optical guide having a plurality of grooves, and the stripes of the grooves are forming a vary angle with respect to the lengthwise direction of the optical guide (Fig. 5).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guiyoung Lee whose telephone number is 571-272-2374. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LGY



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